



S2 Fig. RU treatment does not impair bacterial growth, antibiotic treatment extends lifespan. (A,C) Bacterial growth is not altered by RU treatment. Colony forming units (CFU) of cultured *Pe* (A) or cultured microbiota from female fly midguts (C) were analyzed. Cultures were plated on lysogeny broth medium (LB) containing different RU concentrations (1 µg/ml, red; 10 µg/ml, blue; 100 µg/ml, brown). Cultured gut microbiota were additionally plated on selective medium for *Acetobacteriaceae* (Ace). Each condition is compared to corresponding control plates without RU (set to 1, not shown). (B) Female *white* flies kept on antibiotic-food live longer. Compared to controls (−AB), antibiotic-treated flies (+AB, dashed line) show 7.9% increased MLS. (D) Identification and classification of bacteria isolated from midguts of female *white* flies. The nomenclature of bacterial species identified in this work was defined based on the closest relative. Comparison of 16S rDNA sequences between bacterial isolates was conducted using near full-length 16S rDNA sequences. Statistical tests: (A, C) one sample t-tests, except (C, RU10, LB), Wilcoxon signed-rank test, (B) log-rank test (Kaplan-Meier analysis). n.s., $P > 0.05$. Error bars represent the standard error of the mean. +AB, antibiotic treatment; −AB, controls fed without antibiotics; MLS, median lifespan; *Pe*, *Pseudomonas entomophila*. For SEM-, n -, P -values and raw data see S2 and S3 Tables and S4 File.

Genotype was: *w/w;+/+;+/+* (*white*).